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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KAPLAN, HAL IRA

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,126	Applicant(s) KARLSSON ET AL.	
	Examiner Hal I. Kaplan	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25,27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25,27 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/13/07, 7/10/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities: There is no written description of Figures 2 and 3.
3. The disclosure is objected to under 37 CFR 1.71(a) because it does not contain a full written description of the invention. The determination of claims 5 and 24 (page 8 discloses equations for calculating the voltage behind the source impedance, and the load impedance, but no calculation for determining the actual power imbalance, i.e. the difference between the normal power and the actual power, is disclosed), the short-circuit current (see, e.g., claim 7), multiple dc connections (see, e.g., claim 11), and comparison of phase angles or voltages (see, e.g., claim 12) are not described or mentioned in the detailed description of the invention.

Appropriate correction is required.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the node of claims 2-3, dc connections of claim 11, means for determining an actual voltage/phase angle, means for determining a power imbalance, means for determining suitable power-balancing measures, means for dimensioning the extent of the measures, and means

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arranged such that the selected measures can enable the system to be restored to a suitable connection of claim 23, and means to determine the power unbalance of claim 24 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 22, 23, 25, 26, 27, 28, 29, 30, and 31 in Figure 3, and Br_Nisse, Br_Sixten, Br_Elsa, and Br_Isabella in Figures 4-5.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "30" and "31" have both been used to designate the last box/step in Figure 3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

7. Claims 4-5, 8-10, 12-13, 18, 23, 25, and 27-28 are objected to because of the following informalities: Claim 4, line 3, "the desired voltage/phase angle" lacks proper

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antecedent basis. Claim 5, line 3, "the desired voltage/phase angle" lacks proper antecedent basis. Claim 8, line 4, "the desired/predetermined level" lacks proper antecedent basis. Claim 9, lines 4-5, "the desired/predetermined level" lacks proper antecedent basis. Claim 10, line 4, "the angle" should be "the voltage/phase angle". Claim 12, lines 3-4, "the desired phase angle", "the actual voltage", and "the desired voltage" lack proper antecedent basis. Claim 13, line 3, "the possible power-balancing means" lacks proper antecedent basis. Claim 13, line 4, "the area" lacks proper antecedent basis. Claim 18, line 3, "the respective switching members" lacks proper antecedent basis. Claim 23, line 9, "measure" should be "measures". Claim 25, line 1, "the computer program product" lacks proper antecedent basis. Claim 27, lines 2-3, "are further for carrying out the steps of at least partly transferring the computer program instructions via a network" should be "are at least partly transferred via a network". Claim 28, line 1, "claim 25" should be "claim 27". Appropriate correction is required.

8. Claims 10 and 12 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 10 recites the limitation "the angle returns to the desired level". Claim 12 recites the limitation "the power unbalance is determined based on a simultaneous comparison of the actual phase angle and the desired phase angle". Claims 10 and 12 both depend from claim 1, which does not require a phase angle. Although claim 1 recites an "actual angle", it

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appears from claims 2-5 that claim 1 was intended to recite an "actual voltage/phase angle", which requires either a voltage or a phase angle but not both. For examination purposes, it has been assumed that claim 10 should read "the voltage/phase angle returns to the desired level".

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1-25 and 27-28 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Claims 1 and 25 recite the limitation "determining an actual angle in the electrical power system". It is unclear what is meant by an "actual angle". For examination purposes, it has been assumed that this should read "actual voltage/phase angle", as recited in claims 2-5. Claims 2-20 and 27-28 inherit this deficiency.

12. Claims 2-5, 8-9, 11, and 23-24 contain the phrase "voltage/phase angle". It is unclear whether this means voltage and phase angle, voltage or phase angle, or voltage and/or phase angle. For examination purposes, it has been assumed that "voltage/phase angle" means voltage and phase angle, as, for example, claim 6 requires a voltage, claim 10 requires a phase angle, and claim 12 requires both a voltage and a phase angle. Claims 6-7 and 21-22 inherit this deficiency.

13. Claim 11 recites the limitation "... controlling dc connections such that the voltage/phase angle returns to the desired level". It is unclear exactly what is being

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claimed. The claimed power system is an AC system (see Figure 1), and no dc connections are disclosed or illustrated in the drawings; in addition, dc power does not have a phase angle.

14. Regarding claim 23, the word "means" is followed by the word(s) "arranged such that the selected measures can enable the electrical power system to be restored to a stable condition" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) following "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967). Claim 24 inherits this deficiency.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. Claims 1-5, 8-10, 12-15, 22-25, and 27-28 are rejected under 35 U.S.C. 102(a) as being anticipated by the US patent application publication of Lof et al. (2004/0010350).

As to claims 1 and 23, Lof discloses a method for determining/dimensioning measures for restoring an electrical power system, which experiences or is heading for

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a voltage collapse, to a normal condition, the method comprising: determining an actual voltage and/or phase angle in the electrical power system (see paragraph [0066], lines 1-5 and paragraph [0075], lines 3-5); determining a power unbalance (fault) within at least one sub-area in the electrical power system (see paragraph [0064]); and determining, dimensioning, and carrying out suitable power-balancing measures (e.g. supplying additional power to compensate for lost generators and load shedding) to restore the electrical power system to a stable condition (see paragraphs [0065] and [0067]).

As to claims 2-3, the determination of the actual voltage and phase angle is performed by measuring in at least one node (10) in the sub-area and by calculation (see paragraph [0061], paragraph [0092], lines 16-19, paragraphs [0093] - [0094], and Figure 1).

As to claims 4-5 and 24, the power unbalance is determined starting from a circuit calculation based on the actual and desired voltage and phase angle (see paragraph [0066], lines 13-17, paragraph [0092], lines 16-19, and paragraphs [0093]-[0094]).

As to claims 8-10, the method of Lof further comprises disconnecting a load corresponding to the determined power unbalance, and/or supplying or redistributing power, corresponding to the determined power unbalance, such that the voltage and phase angle return to the desired/predetermined levels (see paragraph [0065], lines 1-4, paragraph [0067], and paragraph [0090], lines 16-22).

As to claim 12, the power unbalance is determined based on a simultaneous comparison of the actual phase angle and the desired phase angle and of the actual voltage and the desired voltage (see paragraph [0066], lines 13-17; paragraph [0092], lines 7-8).

As to claim 13, determination/dimensioning of measures is based on the magnitude of the detected power unbalance and the possible power-balancing means (generators, loads) in the area (see paragraph [0065], lines 1-4 and paragraph [0067]).

As to claim 14, addition of power to the electrical power system and disconnection of loads from the electrical power system are combined such that the power-balancing measures together correspond to the determined power unbalance (see paragraph [0065], lines 1-4 and paragraph [0066], lines 13-17).

As to claim 15, disconnection of loads is performed in a predetermined order of priority (see paragraph [0067]).

As to claim 22, the load disconnection is executed automatically (via control signals provided by control signal providing means) (see paragraphs [0066] - [0067]).

As to claim 25, Lof discloses a computer readable medium and computer program instructions recorded on the computer readable medium and executable by a processor for carrying out the method (see paragraph [0091]).

As to claims 27-28, the computer program instructions can be transferred via the internet (via a data server) (see paragraph [0091]).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

20. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lof.

As to claim 21, Lof does not disclose manual disconnection of loads; however, it

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would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified Lof by designing the system with manual load disconnection, because it has been held that where the only difference between the prior art and the claimed invention is that in one case an activity is performed automatically and in the other case the activity is performed manually, the difference is not sufficient to distinguish over the prior art. *In re Venner*, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958). See MPEP §2144.04(III).

21. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lof in view of the US patent application publication of Ehlers et al. (2001/0010032).

As to claim 16, Lof discloses all of the claimed features, as set forth above, except for the claimed table. Ehlers discloses a method comprising performing connection and disconnection of loads based on an order of priority (44F) stated in a table (see paragraph [0069] and Figure 6). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used a priority table with the computer program of Lof, in order to enable storage and reporting of data for later review.

As to claim 17, the table of Ehlers contains information about which switching members are available within the area (see paragraph [0069]).

As to claim 18, the table contains information about what power change is caused by activation of the respective switching members (see paragraph [0069], lines 3-6).

As to claim 19, a required number of switching members is selected based on the information in the table, such that the necessary power change is achieved (see paragraphs [0121] - [0122]).

As to claim 20, the table is regularly updated (see paragraph [0070]).

Allowable Subject Matter

22. Claims 6-7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims and correct the informalities set forth above.

23. The following is a statement of reasons for the indication of allowable subject matter:

Claims 6-7 contain allowable subject matter because none of the prior art of record discloses or suggests the power unbalanced determined starting from a comparison of the actual voltage, the voltage drop across a magnitude related to the source impedance, and the equivalent voltage of the source, in combination with the remaining claimed features.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal I. Kaplan whose telephone number is 571-272-8587. The examiner can normally be reached on M-F 9:30-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford Barnie can be reached on 571-272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

hik

/Albert W Paladini/

5/6/09

Primary Examiner, Art Unit 2836